SH1 Tawa Curves Drainage Upgrade

NZTA, MWH and Fulton Hogan
Presented by Karen Sun
Acknowledgement

- Team members
  - Mike Pilgrim
  - Eashwar Balasubramaniyan
  - Karen Sun

- NZTA, MWH and Fulton Hogan hybrid contract management team
Project Background

- Substandard drainage at Tawa Curves
- Design completed by MWH in 2008
- Location
Project Interesting Features

- Trial alliance between NZTA, MWH and Fulton Hogan
- Trenchless technology
- Graduates managing the project
Alliance

- Win-win or lose-lose
- Target Outturn Cost (TOC)
- Agreed on a profit margin
### Alliance

Estimated project cost and the project overhead

<table>
<thead>
<tr>
<th>Target Outturn Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOC Component</strong></td>
</tr>
<tr>
<td>NZTA</td>
</tr>
<tr>
<td><strong>Direct Cost</strong></td>
</tr>
<tr>
<td><strong>Risk and Profit</strong></td>
</tr>
<tr>
<td>Risk</td>
</tr>
<tr>
<td><strong>Profit (n% of Direct Cost + Risk)</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>TOC</strong></td>
</tr>
<tr>
<td><strong>% of share</strong></td>
</tr>
</tbody>
</table>

True cost = TOC – breakeven
True cost < TOC – profit   True cost > TOC – lost
Alliance

- No such role as client, consultant or contractor
- Disputes first solved by the alliance team
- Open communication and unbiased opinions
Trenchless Technology

- Why not open trenching?
- Risk of trenchless
Pipe Ramming

Launch pit with shoring

Air hose
Graduates Involvement

What we learned?

- Basic principles of alliance
- Construction methodology, programme and pricing
- Communication is the key
- Construction monitoring
Graduates Involvement
Graduates Involvement

Lessons for future

- Check the conflict with other works
- Plan ahead
Conclusion

- Alliance – open communication and unbiased opinions
- Trenchless was a success
- Graduates gained valuable experience
- Achieved goal – flooding issue addressed
Thank you for your time!